

# **ESTIMATE BODY FAT.COM**

## **Master Resale Rights**

This PDF comes with resell rights and you are free to do with it as you please. It is yours to keep, yours to use, yours to share and yours to sell.

# ESTIMATE BODY FAT.COM

## What is body fat percentage and why is it important?

**Body fat percentage** is the total fat in the body divided by the total body mass and expressed as a percentage. Body fat percentage is an important metric in gauging overall health. Individuals of the same height and total body mass may differ greatly (internally and externally) as a result of different body fat percentages (i.e., compositions). There are many ways to obtain your body fat percentage, but at [Estimate Body Fat](#), you simply need to upload your picture.

A 200 lbs man with 50 lbs of body fat has a body fat percentage of 25%  $[(50/200) \times 100]$ . Fat mass and total body mass can be expressed in pounds (lbs) or kilograms (kgs). The difference between the total body mass and total body fat is called the fat-free mass. This includes bones, muscles and water.



Another commonly used metric is **Body Mass Index** (BMI). BMI is a value derived from a person's height and total body mass. It classifies individuals into broad categories such as underweight, normal weight, overweight or obese, based on a number between 15 and 60. However, due to different body compositions (e.g., more muscle – less fat, tall and skinny, skinny fat, etc.), this can lead to an overestimation or underestimation of overall health.

# **ESTIMATE BODY FAT.COM**

## **What factors influence overall health and body fat accumulation?**

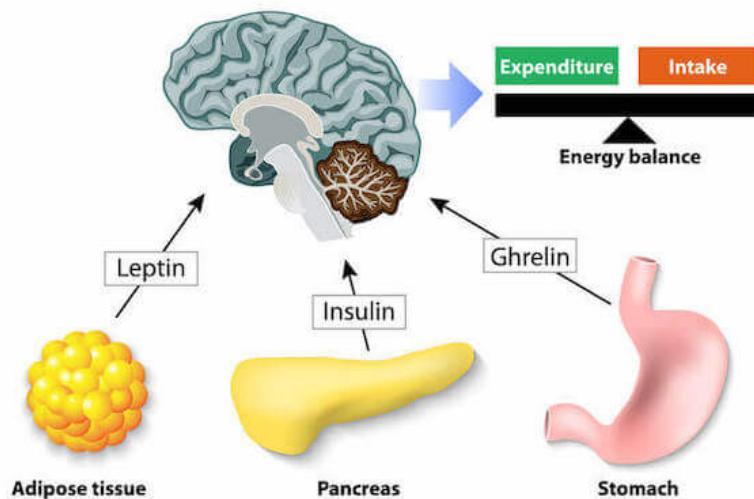
Several factors have an impact on optimal health. These include body fat accumulation relative to total body mass, the type of fat present (visceral or subcutaneous), and the type of fat distribution in the body. Body fat accumulation is affected by a number of variables, including hormones, diet, lifestyle, sex, age and genetics.

If you focus on finetuning your hormones along with diet and lifestyle, you will be able to achieve the fat loss you desire. Sex, age, and genetics, on the other hand, are attributes that cannot be modified.

## A. Body Fat Accumulation

### 1. Hormones

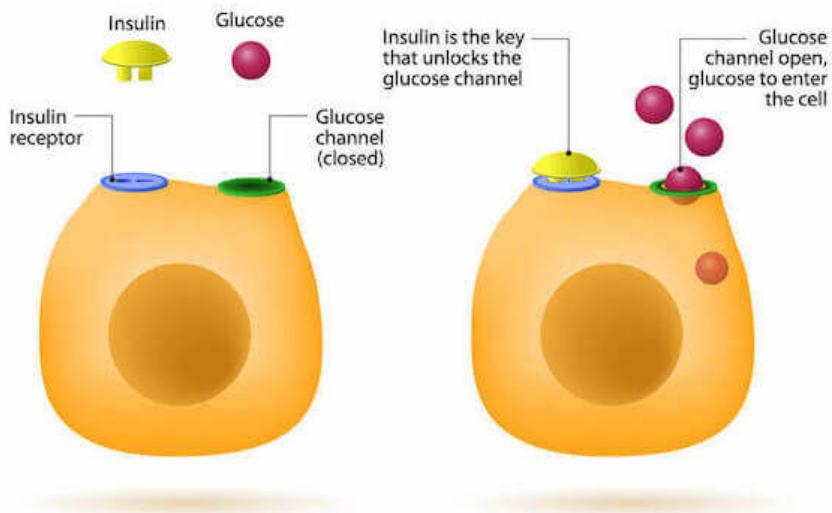
#### CONTROL OF FOOD INTAKE



Dr. Jason Fung in his ground-breaking book [The Obesity Code: Unlocking the Secrets of Weight Loss](#) demonstrated how hormones, in particular insulin, are the main drivers of obesity. In his book, Dr. Fung advocated against victim blaming and pushed for a re-education campaign on how to tackle the obesity epidemic. Let's take a look into how the hormones insulin, leptin, ghrelin and cortisol influence our health.

**Insulin** – also known as the fat storage hormone, is secreted by the pancreas when glucose (sugar) is detected in the bloodstream. Insulin allows cells to absorb glucose as a source of energy or store glucose as fat (to be used as energy in the future). Insulin is secreted to help cells absorb the glucose in the bloodstream when food is consumed.

## HOW DOES INSULIN WORK?



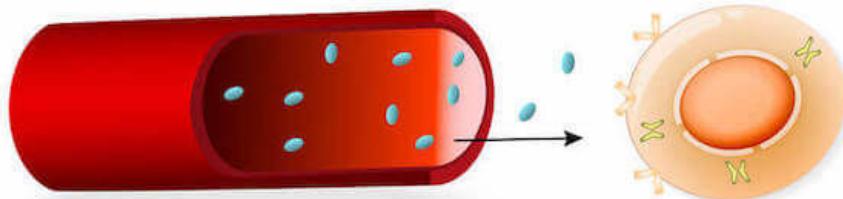
However, with regular consumption of [high glycemic index foods](#) (e.g., white rice, pasta, bread), overeating, excessive visceral fat (fat surrounding your organs), or a lack of exercise, the cells in the body can stop responding to insulin altogether. This leads to excessive glucose in the bloodstream (high blood sugar) and [insulin resistance](#).

High levels of glucose in the blood is one of the precursors to Type 2 Diabetes. Diabetics require external doses of insulin (to supplement what is naturally secreted by the pancreas) in order to achieve the same cell glucose absorption as healthy people. Regular physical activity and a diet low in refined carbohydrates is, therefore, a safe bet against the onset of insulin resistance and Type 2 Diabetes.

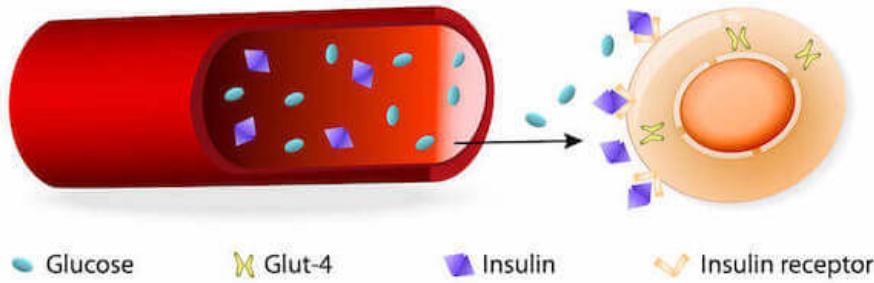
# ESTIMATE BODY FAT.COM

## TYPES OF DIABETES

Type I diabetes



Type II diabetes



Glucose      Glut-4      Insulin      Insulin receptor

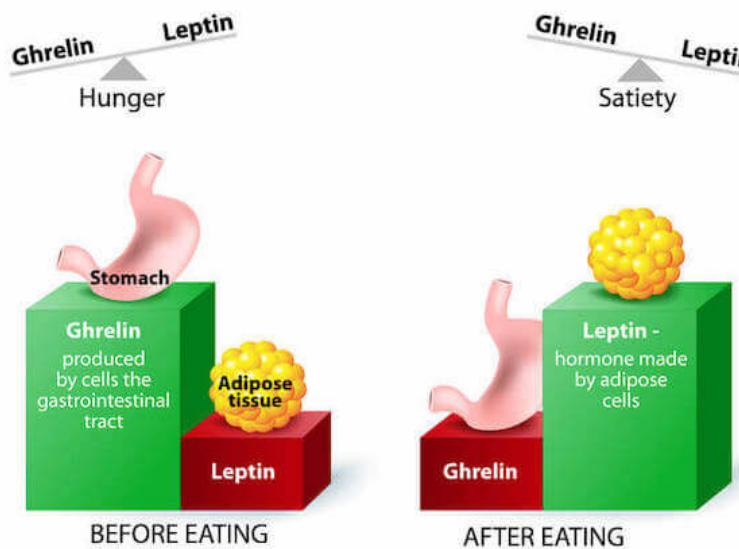
Note: Type 2 Diabetes is entirely preventable, and in some cases, reversible as well. Type 1 Diabetes, on the other hand, occurs due to a lack of insulin production in the pancreas, and there is currently no cure for this condition

Leptin – the 'satiety hormone', is produced in the fat cells and signals the brain to stop eating. It helps the body maintain an optimal weight. Leptin levels are high when satiety is achieved. Healthy individuals tap into fat reserves when leptin levels are low and food is unavailable.

Obese individuals, on the other hand, can have high leptin levels but still not feel satisfied - becoming desensitized to the hormone. This leads to leptin resistance, which can have deadly consequences. Not only do such individuals overeat, but due to the overeating, they are unable to cure the leptin resistance. These individuals also tend to be insulin resistant, which does not help. Diets low in carbohydrates and anti-inflammatory foods can help counter leptin resistance.

# ESTIMATE BODY FAT.COM

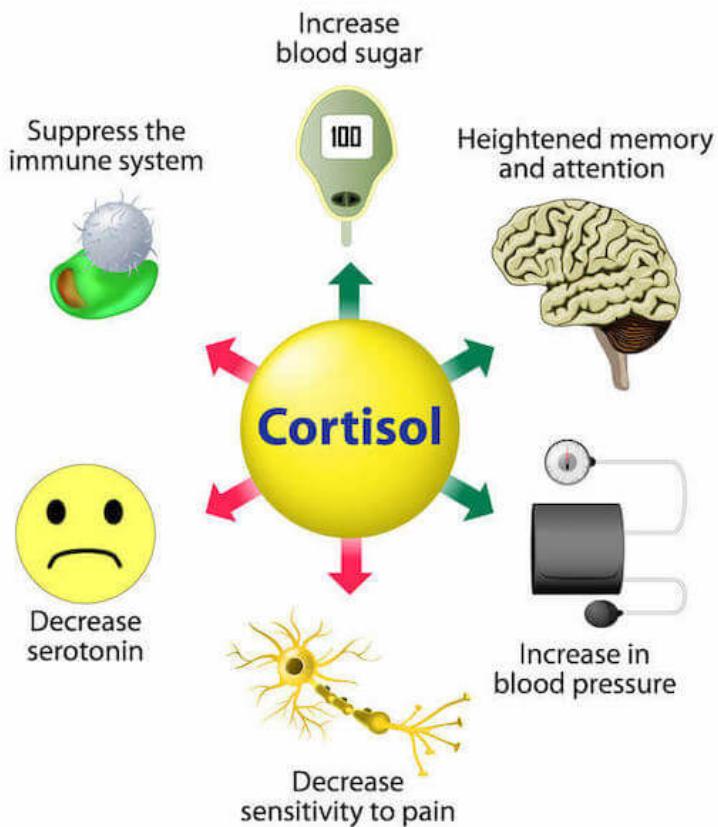
## LEPTIN & GHRELIN



Ghrelin - known as the 'hunger hormone', is produced by the stomach. It helps stimulate appetite. It has the opposite effect of leptin. It plays a role in regulating the brain's reward system. Levels of ghrelin in the blood rise before a meal and fall after eating.

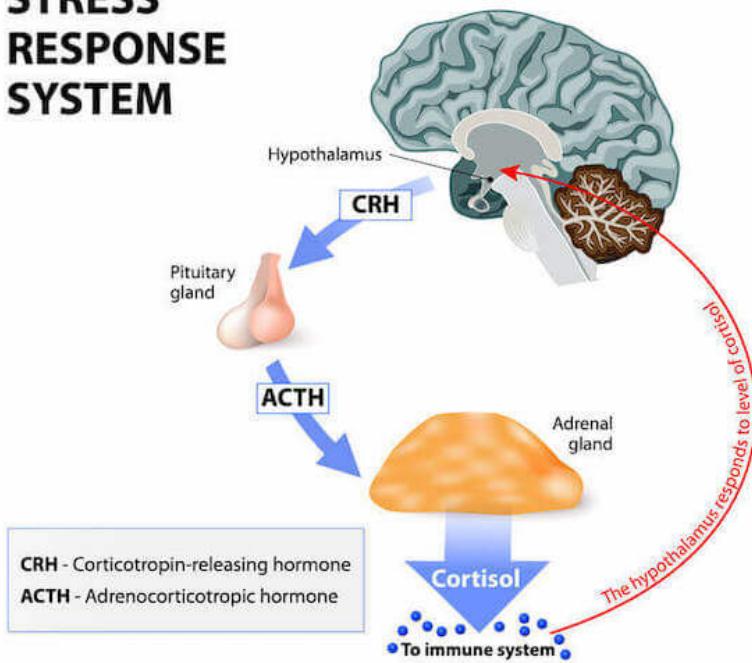
Ghrelin, like hunger, is known to rise and fall in waves. If you've ever been too busy to eat and find yourself not hungry anymore - this is ghrelin at work. Limiting refined carbohydrate intake and eating meals with sufficient protein content promotes satiety and helps reduce ghrelin. Low ghrelin levels are necessary for long-term fat loss. Fasting has been shown to decrease ghrelin levels and increase growth hormone, which is useful in building lean muscle and aiding fat breakdown.

# ESTIMATE BODY FAT.COM



**Cortisol** - known as the 'stress hormone', is produced by the adrenal glands when the hypothalamus in the brain senses danger or stress. [Cortisol limits nonessential bodily functions](#) in a fight or flight situation, such as appetite and sex drive.

## STRESS RESPONSE SYSTEM



The survival of the human race has been aided by our ability to sense danger and avoid it. However, too much cortisol in the bloodstream (arising from [chronic stress](#)) can lead to problems such as anxiety, depression, weight gain and sleeping issues, just to name a few. It is very important to find healthy ways to manage daily stressors in life. A diet low in refined carbohydrates, plenty of sleep, meditation, daily walks and sports are just some of the ways to manage stress.

Here's an interesting article by Franziska Spritzler on [proven ways to fix your hormones for weight loss](#).

# ESTIMATE BODY FAT.COM

## 2. Diet and Lifestyle, Sex, Age and Genetics

Body fat accumulates quickly with a diet high in refined carbohydrates (i.e., grains, potatoes, chips, bread, rice, pasta) due to the non-nutritious nature of these types of foods. Sugary drinks and food cooked in vegetable oil also contribute to the obesity epidemic, and when eliminated from the diet, produce marvellous results.

Body fat accumulates more quickly in women than men due to the demands of reproduction and menstruation. As we age, our total body fat mass also tends to increase due to [muscle mass reduction](#), slowing down of metabolism, and low testosterone levels.

Resistance/strength training along with a diet low in refined carbohydrates is the best natural way to prevent body fat from accumulating. External supplementation of testosterone may be appropriate for individuals with decreased sex drive and/or severe muscle loss.

Before starting any hormonal supplementation, it is imperative to consult an endocrinologist. Genetics influence the [distribution of fat across the body](#). However, you cannot choose who you are born to and there is no point worrying about something you cannot change. Rather, it's important to focus on what you can control.

## B. Overall Health

Body fat is essential for survival. However, excessive body fat can lead to serious health concerns and complications and affect your quality of life. Let's look at the different types of body fat.

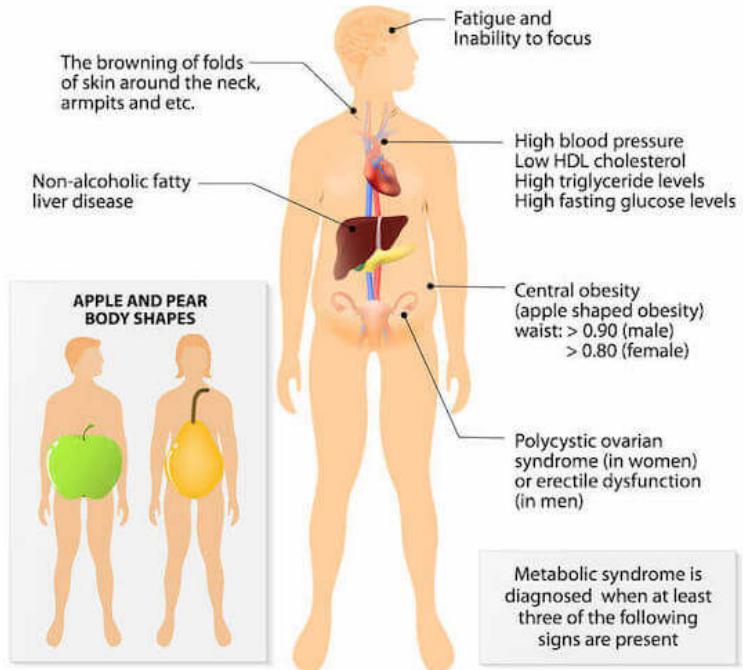
# ESTIMATE BODY FAT.COM



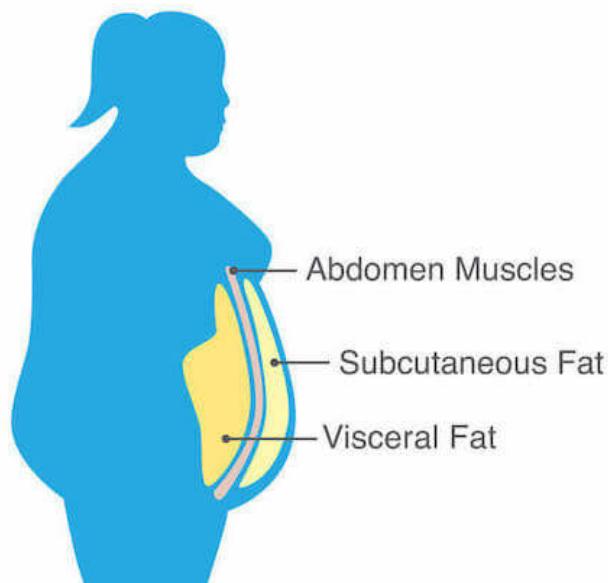
Visceral Fat - is the fat that surrounds your internal organs. It is found mostly in the abdomen. Excessive visceral fat contributes to insulin resistance and metabolic syndrome and is very dangerous to human health. It is mostly characterized by excessive fat in the abdomen. A poor diet and lack of physical activity are the leading causes of high visceral fat.

# ESTIMATE BODY FAT.COM

## THE SYMPTOMS of metabolic syndrome



Individuals with a low body fat percentage can still have a very large amount of visceral fat if they eat an unhealthy diet. The good news is that when you eat healthy meals that are low in refined carbohydrates and include daily physical activity in your lifestyle, visceral fat is usually the first type of fat to melt away.



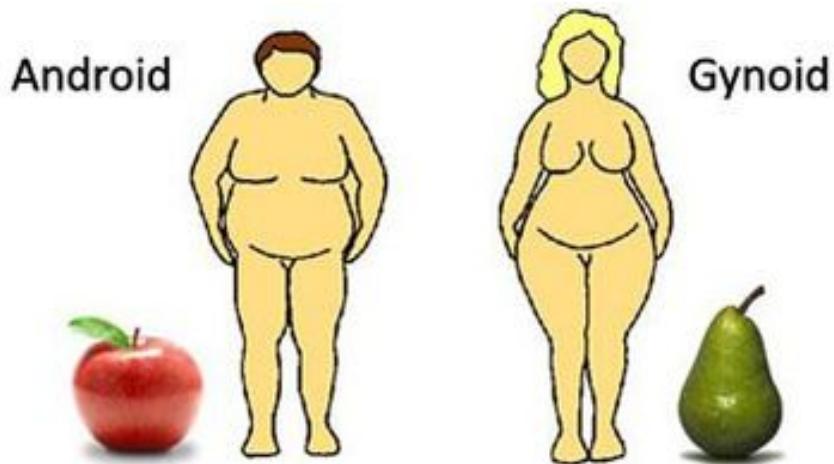
# ESTIMATE BODY FAT.COM

Subcutaneous Fat - is the fat under the skin that you can easily grab. It is not generally considered as much of a health risk as visceral fat. Subcutaneous fat becomes worrisome when there is too much of it. Losing subcutaneous fat takes discipline and dedication, but with the right foods, a positive mindset, and sufficient time, it is definitely possible.

NOTE: If you are interested, read more about brown fat or brown adipose tissue (good fat) which has been generating a lot of interest due to its ability to burn white fat (subcutaneous fat) when activated by cold weather.

## 1. Body Fat Distribution

The type of fat distribution you have has as great an impact on your health as does the total body fat you carry, maybe even more. Knowing your fat distribution is crucial to monitor health risks and avoid diseases later in life. The two types of fat distribution are android fat distribution and gynoid fat distribution.



Android fat distribution (also known as apple body shape) is a distribution of excess fat around the abdomen, trunk and upper body. This fat tends to be visceral, which as discussed above, comes with an increased risk of heart disease and stroke.

This type of fat distribution is more common in men than in women. Low levels of testosterone have been found to correlate with higher levels of central fatty deposits.

# ESTIMATE BODY FAT.COM

A diet low in refined carbohydrates with regular physical activity can prevent the android distribution from becoming problematic.

Gynoid fat distribution (also known as pear body shape) is a distribution of fat around the hips, thighs and buttocks. This distribution is found mostly in women and is influenced by the hormone estrogen.

Gynoid fat distribution tends to create a natural 'hourglass' figure. This shape in human females is generally regarded as attractive to males from an evolutionary standpoint. However, this is debatable. Excessive gynoid fat is not as prone to harmful diseases as is the android distribution. However, overall body fat mass must always be maintained within a healthy range.

Note 1: Android (waist) to Gynoid (hip) ratio: Men with a waisttohip ratio of  $>1$  & women with a waist-to-hip ratio of  $>0.8$  have an increased risk of cardiovascular illness, diabetes, stroke, cancer, etc. (Source: Dexa Scans)

Note 2: As it is impossible to change your bone structure or genetics which influence how fat is distributed in the body, what you can do is focus on the things you can change, i.e., diet and lifestyle.

# ESTIMATE BODY FAT.COM

## What factors influence overall health and body fat accumulation?

Body fat is essential for survival; however, excess body fat prevents the body from performing at its peak. It is also frequently a precursor to many chronic diseases. Long gone are the days where being overweight was seen as a sign of prosperity (maybe in a few developing countries this still holds true).

The American Council on Exercise has categorized body fat percentages for men and women into 5 separate categories. It is important to remember that these categories are broad generalizations. Living a healthy lifestyle and being a little overweight is still considerably better than having the body fat percentage of a performance athlete but living off junk food, alcohol and cigarettes.

Description	Men	Women
Essential fat	3–5%	10–13%
Athletes	6–13%	14–20%
Fitness	14–17%	21–24%
Average	18–24%	25–31%
Obese	25%+	32%+

Source: [American Council on Exercise](#)

Going for an annual physical check-up with your family doctor is a great way to keep a tab on your overall health. To get a better understanding of physique, let's see how the human body looks with different body fat percentages on men and women.

# ESTIMATE BODY FAT.COM

## Male



### 1. Male - Body Fat Percentage under 7%

Trying to maintain a body fat percentage of less than 7% is not only extremely difficult, but also very unhealthy (considering the body needs at least 3-5% of fat just to survive). However, professional bodybuilders and fitness models sometimes achieve this prior to shows/shoots. With sub 7% body fat, there is a clear vascularity (appearance of veins) between the muscles, an 8 pack of abdominal muscles (abs), and striations (lines) visible across different muscles.

While this body fat percentage may be aesthetically pleasing to some people, it is practically impossible to maintain for the long-term, let alone live with on a daily basis. This level of body fat percentage is usually achieved with the help of anabolic steroids, extremely strict diets, and dehydration. Also, being at an extremely low body fat percentage can negatively affect sex drive as it leads to a fall in testosterone levels.

### 2. Male - Body Fat Percentage between 10% and 12%

This body fat range is safe, sustainable, and presents you in the best light possible. Your body is defined, there is a clear separation between the different muscles, and it is generally perceived as being the [most attractive to the opposite sex](#).

This makes sense when you think about it from an evolutionary perspective. A diet low in refined carbohydrates and frequent exercise can help anyone achieve and maintain this range of body fat percentage. Think of Daniel Craig (James Bond) in

# **ESTIMATE BODY FAT.COM**

Casino Royale. That is what a 10 to 12 body fat percentage looks like. If you are thinking of bulking up (gaining muscle), most fitness professionals recommend aiming for this body fat range.

## **3. Male - Body Fat Percentage between 14% and 17%**

In this range, you have a muscular look without firm abs or vascular arms. You look well-defined in a t-shirt but you may not have the tone you desire when you take it off. However, if you've been overweight your whole life and have recently lost a considerable amount of fat, your body will definitely have a brand new look. It will be noticeable to friends and family.

This is a prelude to a four/six pack, abs not beer :). So, don't give up just yet. And beware, this is often the range where many men stop following their healthy diet and exercise plan and fall back into their old habits that made them overweight in the first place.

## **4. Male - Body Fat Percentage around 20%**

Say goodbye to vascularity at this stage. Think of it as the stocky powerlifter look (if you are muscled) with a belly. Men that are under muscled and overweight tend to be skinny fat at this stage, which is the worst possible look.

To break the skinny fat mould, it is best to focus on body weight exercises like push ups and chin ups to build strength, while at the same time eating a diet very low in refined carbohydrates. A strict diet for a couple of months combined with an exercise routine can definitely bring down your body fat percentage to 12%, no matter your body type.

## **5. Male - Body Fat Percentage between 25% and 30%**

The waist starts protruding at this point as this is the excess fat category. This range is where there is no separation between the muscles at all. Your face looks puffy and you most likely develop a double chin.

On the other hand, if you've been obese your whole life and have been making changes to your diet and lifestyle, this is the range where people will start noticing a change. Baggy clothing may conceal the fact that you're still overweight, but if you wear a well-fitted t-shirt, it will be rather obvious.

# **ESTIMATE BODY FAT.COM**

## **6. Male - Body Fat Percentage above 30%**

When the body fat exceeds 30 percent, men enter the high-risk category. In most cases, the waist-to-hip ratio is greater than 1 and the gut is noticeable no matter the clothes you wear. There is no muscle separation whatsoever, and this is usually the stage where losing fat is necessary not just for aesthetic reasons but for health reasons.

## **7. Male - Body Fat Percentage above 35%**

Making any positive change to your diet and lifestyle at this stage will have a positive effect on your overall health. The waist-to-hip ratio is far above 1 and so are the risks of cardiovascular diseases, diabetes, stroke, etc. The android fat distribution (fat surrounding the waist) is very dominant at this stage, and if you want to lead a healthy and happy life, a radical change in your diet is needed.

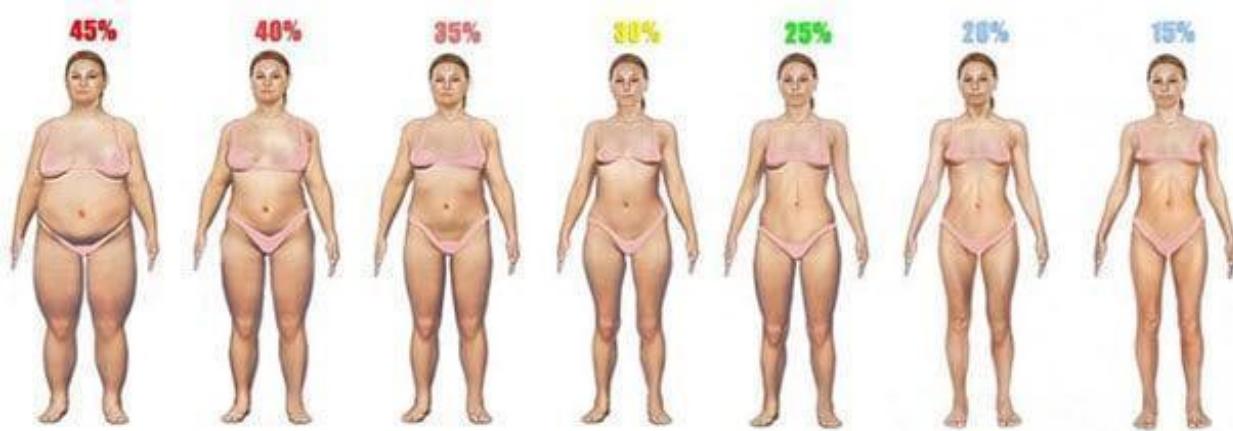
## **8. Male - Body Fat Percentage above 40%**

Basic everyday activities like walking, bending, playing sports, etc., become difficult at this point. The waist-to-hip ratio is considerably higher than 1 with all the risks listed in the section above. At this range, you qualify as obese and losing fat is imperative if you want a long and healthy life.

Sticking to a low-carb high-fat diet for even 30 days may produce marvellous results. Do not give up. If you stick with your plan, within 3 months, you'll feel like a brand new person. The human body is very malleable. Always remember that.

# ESTIMATE BODY FAT.COM

## Female



### 1. Female - Body Fat Percentage between 13% and 15%

This range in body fat percentage is attained by some female bodybuilders prior to a show. It sits a few percentage points above the essential body fat percentage level. As such, it is unsustainable over the long run. Female bodies require more body fat to function, and women at this range of body fat may even stop menstruating due to the lack of fat. Just like male bodybuilders prior to a show, striations (lines) are visible across different muscles and there is a clear separation between the muscles.

### 2. Female - Body Fat Percentage between 15% and 17%

At this body fat level, there is still clear separation between different muscles and some vascularity is visible. Fitness models usually hover in this body fat range. Some athletes also maintain this body fat percentage. This is still a very low body fat level for women to consistently maintain without intensive exercise and a very strict diet.

### 3. Female - Body Fat Percentage between 19% and 22%

Athletes tend to hover around this body fat range. There isn't much natural curviness at this range as the body fat tends to be minimal. It becomes very apparent from just the woman's appearance that she maintains a healthy diet. There is a clear separation between the muscles, although not as defined as the previous ranges.

# **ESTIMATE BODY FAT.COM**

## **4. Female - Body Fat Percentage above 25%**

Women at this body fat range look neither too skinny, nor overweight. Health warning bells haven't gone off just yet. A well-balanced diet and lifestyle can keep you healthy in this range. Compared to previous body fat ranges, fat in the buttocks and hips may be more evident. It presents more of the curvy hourglass look that is appealing to the majority of men. The accumulation of fat in these areas is not as serious in terms of healthy as the accumulation of fat in the stomach region.

## **5. Female - Body Fat Percentage above 30%**

This range in body fat percentage is more on the larger side of the hour glass image. There is more accumulation of fat in the hips and buttocks. Compared to men, women can still maintain a flat stomach without accumulation of abdominal fat at this range. However, this range does indicate you are carrying excess body fat that should be worked off. If the stomach starts accumulating excess body fat, this should be taken as a sign that something needs to be done about it, i.e., lifestyle change consisting of diet and exercise.

## **6. Female - Body Fat Percentage above 35%**

There is a dramatic increase in the waist, thighs, and hips of women in this body fat range. The belly appears flabby and may even dangle out. A waist-to-hip ratio exceeding 0.8 could be problematic. Excess body fat in the hip region in women can increase the risk of venous thromboembolism or dangerous blood clots in the veins. However, a diet high in fat and low in carbohydrates can produce marvellous results if you stay with it for 3 months. A new workout program accompanying the healthy diet can help accelerate the progress towards a healthier body fat range.

## **7. Female - Body Fat Percentage above 40%**

Having body fat above 40% is a clear sign that something needs to be done in terms of diet and lifestyle. At this stage, the waist, hips and thighs take on most of the extra fat and almost certainly make even everyday activities uncomfortable. Just like men in the 40% body fat range, tasks like walking, bending, moving things, and playing with your children become a chore. Also, like the previous range, excess body fat in hips can increase the risk of venous thromboembolism or dangerous blood clots in the veins. At this stage, simple changes in diet can work some magic for overall health

# ESTIMATE BODY FAT.COM

and well-being. It is certainly possible to feel like a completely new person in just three months by sticking to a new eating plan.

Sources: [Body Fat Percentage Pictures of Men and Women](#), [Visually Estimating Body Fat Percentage](#), [Body Fat Percentage](#)

# ESTIMATE BODY FAT.COM

## What is the best way to lose body fat and keep it off?

### A. Educate Yourself (or Rather Re-Learn)

We live in a world where we are bombarded with food advertisements claiming to be 'healthy' and 'good for us'. Yet in many cases, these same 'healthy' foods make us fat and sick. So, how do we one-up these food companies that are simply pushing their own agenda for profits. The path towards enlightenment is through education.

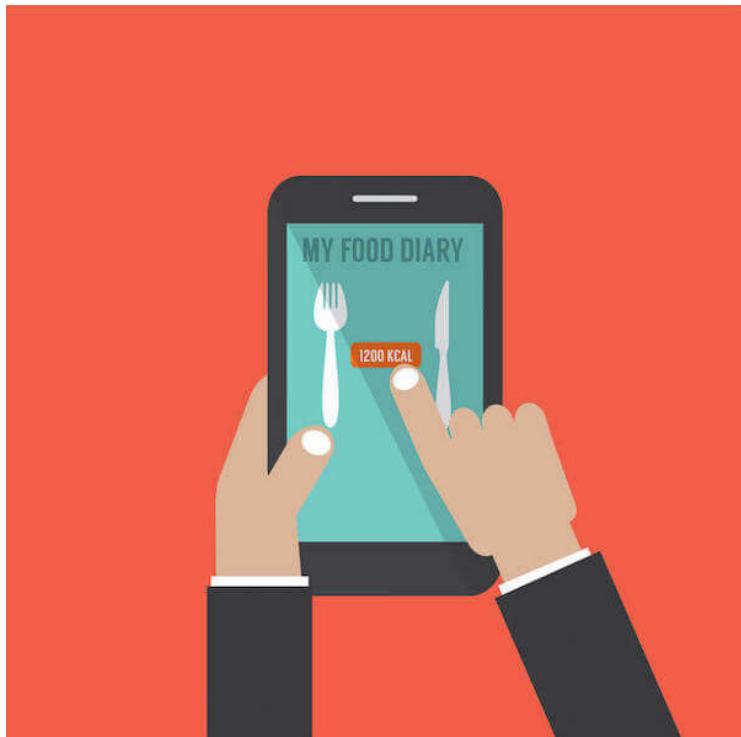
I've probably mentioned the work of Dr. Jason Fung already on this application, and there is a good reason for it. His book [The Obesity Code: Unlocking the Secrets of Weight Loss](#) helped break many myths that had taken root in me. Here are some of the important concepts that I thought were true.

#### 1. Calories

A calorie is not a calorie (i.e., all calories are not the same). Just try eating 1000 calories of steak for 7 days vs 1000 calories of Doritos. They both have the same number of calories but differ greatly in the time it takes to reach satiety (feeling full) and the way they make you feel in terms of energy. The law of thermodynamics cannot be applied to the human body.

The body must make the [switch from using food as an energy source to using fat reserves as an energy source](#). Simply eating less calories without taking into account the type of calories does not work in the long-term for fat loss. In fact, when we do this, the body goes into starvation mode and lowers the BMR and metabolism - meaning instead of burning 2000 calories a day, your body now only burns 1700 calories a day.

# ESTIMATE BODY FAT.COM



To prevent this from happening, the body needs to completely deplete its dependency on carbohydrates and tap into the fat reserves to obtain energy. The ketogenic diet helps achieve this. When we eat less calories, the BMR (basal metabolic rate or the number of calories your body burns while at rest) decreases. With the ketogenic diet, your overall BMR does not decrease, but rather it switches the source of energy to the body's fat reserves.

This is only possible when the body has completed depleted its glycogen storage (i.e., it no longer has stored glucose or carbs). This is why you do not feel hungry on the ketogenic diet. Fast food companies hijack the calories-in calories-out mantra for their own benefit by telling you that it's your lack of self control that is making you fat, not the type of calories in their food.



## 2. Vegetable Oil

Eliminate [vegetable oils from your diet](#) if you are serious about lowering your [omega 6 to omega 3 ratio](#). A diet that is high in omega 6s usually leads to inflammation, increasing the possibility of developing many diseases. Cook with oils from fruits such as olives, coconuts, and avocados or use butter. Among oils, I usually go for the [Colvaita Extra Virgin Olive Oil](#) - it's both delicious and affordable. Extra virgin olive oil is an excellent choice for people who want to lose fat. It has a relatively low percentage of saturated fat. Its high smoke point allows it to be used for cooking at high temperatures.

It's no wonder that olive oil has been a staple in Mediterranean cooking for centuries. The monounsaturated fatty acids in extra virgin olive oil (approximately 75 percent) provide additional health benefits. They lower bad cholesterol (LDL) and increase good cholesterol (HDL). They control blood sugar levels, normalise blood clotting, and help in keeping the heart healthy.

They promote a feeling of satiety and make it easier for you to stay away from snacks laden with empty calories. Extra virgin olive oil is an especially healthy fat-loss-promoting cooking ingredient because it is unrefined and has no additives. The lack of processing means that extra virgin olive oil contains a higher concentration of essential minerals and vitamins. And as a bonus, the high vitamin E content will work wonders for your skin. The antioxidants in this oil attack free radicals in the blood which are associated with the effects of aging and certain cancers.

# ESTIMATE BODY FAT.COM

## 3. Grains



Eliminate [grains from your diet](#). If you are prone to irritable bowel syndrome and suffer from diarrhea, bloating, and constipation, you may find instant relief. Read [Wheat Belly by William Davis](#) which talks in detail about why wheat is possibly one of the worst foods you can consume. A cardiologist by profession, Dr. Davis found that eating grains for breakfast (bagels, toast, waffles) often made him feel lethargic and tired.

He started experimenting with a wheat-free diet on patients who were overweight and at high risk for developing diabetes. He asked them to substitute grains with low-glycemic-index foods for 3 months. To his surprise, Dr. Davis found that the majority of patients who participated in the experiment lost a significant amount of weight and had better blood sugar levels. They also reported feeling more energetic and having better focus at work and school. In addition, they reported more restful sleep and better bowel health.

In his bestselling book, Dr. Davis recommends replacing bread, pasta, cereal, wheat, rye, and certain oats with vegetables, less sugary fruits like apples and oranges, meat and eggs, cheese, yogurt, milk, soy, olives, avocados, and raw seeds and nuts.

Transitioning off wheat can feel intimidating, but it's doable, and limited quantities of quinoa, chia, and millet can be consumed. In terms of alcohol, Dr. Davis strongly recommends staying off beers and choosing a glass of red wine instead for its heart-healthy properties.

# ESTIMATE BODY FAT.COM

## 4. Snacks

Stop snacking completely. The idea that you need to constantly eat to keep your metabolism going has never been proven. On the other hand, constant snacking can lead to insulin resistance as the body is constantly pumped with food. In ancient times, humans typically ate one meal a day and it was only when the industrial revolution happened that the idea of three meals a day was floated to sustain manual labourers. In the modern day, eating outside of mealtimes, constantly snacking, and erratic eating patterns mean that human beings are in a “fed state” for a large proportion of the day.

The post-meal state triggers an immune response in the body and constant snacking can put the immune system under a great deal of physiological stress. This low-grade inflammation can result in a number of diseases as well as drive the body towards early aging. Snacking late at night has been linked to elevated levels of glucose and cholesterol, insulin resistance, and a feeling of hunger the following day. Mindless snacking can easily take you over the recommended caloric intake for the day while providing minimal to zero nutritional value.

Careless and frequent snacking is also associated with a higher incidence of tooth decay. If you tend to snack out of boredom, stress, or just bad habit, make an effort to stop right away. Sugary treats should be reserved for special occasions. And when the hunger pangs strike away from mealtimes, substitute carbohydrate-rich snacks with nutrient- and fiber-rich ones that are satiating. A handful of almonds has about half the calories of a dozen pretzel twists and about 4 times the fiber as well as dozens of minerals, vitamins, and antioxidants. Choosing wisely and becoming mindful of your snacking habits will go a long way in helping you progress on your journey towards a healthy fat percentage.

## 5. Dietary Fat

Remember, saturated fat in your diet does not make you fat or clog your arteries. In fact, fat is an important source of energy for the body and a critical component of a healthy balanced diet. Fat has several important functions in human nutrition. It helps in the absorption of vitamins and minerals. It is a necessary ingredient for cell membranes and nerve sheaths. It is essential for healthy muscles and blood clotting. It prevents inflammation. However, some fats are good for us while others are not. Trans-fats (solid margarine and vegetable shortening) have no health benefits and should be avoided altogether (in fact, they are banned in the United States).

# ESTIMATE BODY FAT.COM

Saturated fats, such as those found in red meat, full-fat milk, and cheese, are common in our diets. If consumed in excess, they can drive up the cholesterol levels in the body and clog the arteries. It is recommended that less than 10 percent of the daily caloric intake should come from saturated fats. On the other hand, monounsaturated and polyunsaturated fats are good for us. These are found in nuts, seeds, fruits, and fish.

They are liquid at room temperature. Olive oil contains mostly monounsaturated fats. Studies have shown that people living in Mediterranean countries have a low incidence of heart disease despite a seemingly high-fat diet. This is because most of the fats they consume are not saturated animal fats but rather monounsaturated fat such as that found in olive oil.

## 6. Sleep

Getting a good night's [sleep is essential](#) in keeping appetite under control and preventing cravings for high-starch foods. When the human body is sleep deprived, there is increased production of the stress hormone cortisol. This triggers the reward center in the brain and increases food cravings.

People who don't get enough sleep also tend to over-produce the hunger hormone ghrelin and the satiety hormone leptin, making them more susceptible to overeating and feeling less satisfied after meals. Adequate sleep is also necessary because it is during sleep that the body produces growth hormone.

This hormone burns fat and repairs and builds muscles, thereby improving strength and allowing you to work out more efficiently. Lack of sleep can lead to cravings for salty and sugary foods and unhealthy late-night snacking habits. If you are in a state of sleep-deprived exhaustion, your mental clarity is less than optimal and your will power is probably at its lowest, making it more likely that you will reach for that forbidden donut rather than a piece of fruit.

There are several ways to promote restful sleep. Consistent sleep/wake times, avoiding caffeine later in the day, reducing daytime naps, and sleeping in a quiet dark room are all known to help.

# ESTIMATE BODY FAT.COM

## 7. Stress

Reduce daily stress to lose the fat. Find a healthy way to blow off steam. Something like working out, reading, participating in an outdoor activity, or playing a musical instrument. If you leave the stress unaddressed, you are at greater risk of stress eating. This type of emotional eating not only contributes to excess calories but also frequently consists of unhealthy foods that cause the body's fat percentage to creep into the unhealthy range.

Stress leads to high levels of cortisol hormone in the body. This hormone is known to promote body fat and make it extremely difficult to get rid of extra weight, especially belly fat. This is because cortisol tells the body to conserve energy even though the body hasn't used many calories. Chronic stress and the secretion of cortisol is part of a feedback loop that has been found to slow down fat metabolism and make fat loss difficult.

The only way to break out of this vicious cycle is to manage chronic stress. Studies [1] show that people who undergo some sort of stress management program along with healthy lifestyle efforts with diet and exercise are more likely to achieve a reduction in BMI compared to people who simply make changes in lifestyle without participating in stress management.

## 8. Fasting

Incorporate fasting in your overall weight loss plan as a way to boost your immune system, accelerate your fat loss, and improve your skin. It has worked wonders for me and I know it will for you as well. Fasting is a scientifically-backed method of burning fat and it has been around since ancient times.

For one, it is a great way to reverse insulin resistance and get rid of the stubborn weight that just refuses to go. Fasting is also known to protect against a number of diseases, such as Alzheimer's, Parkinson's, liver disease, heart conditions, and cancer. It kickstarts the immune system and provides a boost to metabolism.

Fasting leads to a natural increase in the secretion of growth hormone, leading to a more energetic state that promotes an efficient exercise session. Temporarily restricting food intake helps put the hormones back in balance. It forces the body to tap into fat reserves to function normally. The body moves from a sugar-burning mode to a fat-burning mode. Sugar, which is stored as glycogen in the liver and muscles, is

# **ESTIMATE BODY FAT.COM**

the easiest source of energy for the body. Once this is depleted, the fasting body moves to obtaining energy from fat stores. And this is good news for people who are aiming for a healthier fat percentage.

## B. Focus on Building Good Habits

Fat loss is a long-term commitment, and therefore, you need a long-term solution that is sustainable. You can achieve this by building good habits that can help you achieve your goal. This takes dedication but is worth the effort.

'Building a habit only takes 21 days' is a common myth that almost everyone thinks is true. Habits take anywhere from [two months to eight months](#) to form. Therefore, you need to have a realistic timeframe when it comes to achieving your weight loss goals as this will require you to form several good habits. Here are a few habits that can help you achieve your goals:



### 1. Water

Drink water everyday. Drinking more water has [been shown to burn more calories](#). Keeping a [water bottle beside your bed](#), desk, or on hand when travelling is an easy way to build this habit, save money, and lose fat as a by-product.

# ESTIMATE BODY FAT.COM



## 2. Meals in Advance

Prepare your meals in advance to avoid any unnecessary temptation to order restaurant food when you are tired after work or school.



## 3. Eliminate Junk Food

# ESTIMATE BODY FAT.COM

Throw out ALL unhealthy foods from your home. This might sound drastic, but if there are no chips, ice cream, or cookies in your kitchen, there is no junk food for you to eat. If you do feel the need to occasionally eat junk food, eat it when you're outside your home and do not store any at home. This way you can start afresh after a cheat day and not have any temptation derailing your diet.



## 4. Bone Broth

Drink [bone broth as part of your diet](#). It helps strengthen the heart, aids in muscle growth, and contains essential electrolytes such as calcium and magnesium that can easily be absorbed through the gut.

# ESTIMATE BODY FAT.COM



## 5. Reduce Social Media

Reduce your dependence on social media. Yes, I know you're wondering what this has to do with losing fat! Well, you need a clear and uncluttered mind to take on the huge challenge of losing fat. This will be difficult if you are in a depressed, lonely or anxious state - which social media has been shown to increase. To get a healthy body, you first need a healthy mind.

# ESTIMATE BODY FAT.COM

## C. Take Things Slow

Fat loss is a long-term game, so don't play it with a short-term mindset? Taking things slow, especially at first, will help you learn more about yourself. The path to becoming the best version of yourself mentally and physically is a slow and steady one. Here are some tips to help:

# ESTIMATE BODY FAT.COM

## 1. Start Meditating



Meditation is a great tool to develop the mental fortitude necessary to handle the ups and downs that are likely to occur during your fat loss journey. Not only that, meditation will help you focus more intensely and be more creative. [Practical Meditation for Beginners](#) is great guide for novices.

## 2. Start Reading



# ESTIMATE BODY FAT.COM

Reading might not seem like a vital cog in the fat-loss wheel, but hear me out. Having a healthy body without a healthy mind is useless. Just as you work on your body, the mind also needs its own fuel – and reading is that fuel. Not only do you learn from the mistakes of others but you also learn what works and how you can put that to your benefit.

## 3. Eliminate Addictions

Probably much easier said than done, but to be the best version of yourself, you must get your act together. You might not even be aware that you have an addiction until you reflect on how social media, television, junk food, alcohol, drugs or relationships influence your life. This type of reflection can identify problematic patterns in your behaviour that need to be worked on. Once they are identified, seek help from those that have overcome similar issues or read books that address a particular addiction.

## 4. Find What Works for You

None of what I've written above matters if it doesn't work for you. Create your own path and stay accountable to it. I'll admit I struggle with this myself. But knowing that the journey is a long one helps prepare for it mentally. On the other hand, there is no point in going to extreme lengths to achieve your goals when you know that three months from now you'll be back to your old ways. Find something that works that you can easily see yourself doing 10 years from now.

## How can I lose body fat fast?

Every diet [works well in the short term](#). Understanding the mechanics of fat loss will help you solve the problem for the long term. Here are some tips to consider:

### 1. Understand Weight Loss is Not Linear



I have specifically used weight loss in the title because as long as you eat under your daily maintenance calories, you will continue to burn fat. However, this might not always be reflected on the weighing scale right away.

The reason for this is simple. As you lose fat, the fat cells in the body shrink but they do not die. These fat cells can fill up with water and as a result make you heavier than you really are. But don't worry, this is just water weight. That's why you shouldn't be concerned about what you weigh on a day to day or even weekly basis.

Increasing water consumption or eating a high carbohydrate meal can [help get rid of that water weight](#).

# ESTIMATE BODY FAT.COM

## 2. Time Your Meals



Restricting the number of hours and times you eat per day and moving mealtimes to an earlier time helps maintain lower insulin levels (fat storage hormone). Similarly, restricting late night eating actually lowers the desire and capacity to eat. In one study, overweight individuals were instructed to restrict their eating times to 10-11 hours per day instead of 14, and the results showed that they lost fat without changing the type of food they ate. The low-carb high-fat keto diet (keto) with intermittent fasting is incredibly effective for fat loss and easy to maintain because you DON'T GET HUNGRY THAT OFTEN!

## 3. Drink Lots of Water

Not only will water improve your skin but it will help flush toxins from your system. Water helps burn more calories and suppresses hunger too. Drinking water before your meals and keeping well hydrated helps reduce hunger pangs.

## 4. Sleep to Reduce Stress



Sleep deprivation reduces leptin (the satiety hormone) and increases ghrelin (the hunger hormone). This in turn [increases cravings, especially for refined carbohydrates.](#)

No wonder you are tempted to eat donuts, cookies or bagels when you haven't had enough sleep. Make sure your room is pitch black when you turn in to sleep. If this is not possible, [try using a sleep mask](#). I have personally found success with it.

## 5. Eliminate Sweeteners from your Diet

Although artificial sweeteners are deemed safe for consumption by the FDA, the reviews on their [long term impact in preventing fat gain is mixed](#). It is interesting to note that as artificial sweeteners have been increasingly consumed, [obesity as a whole has risen](#).

Even though artificial sweeteners do not contain any calories, researchers at the Washington University School of Medicine have discovered that they [can affect the insulin \(fat storage hormone\) response](#). If you must have a zero-calorie sweetener, [Stevia might be a better choice](#) as it is naturally occurring. The science on the long-term effects of artificial and natural sweeteners is still very young. Use them in moderation and be careful not to abuse either one.

## 6. Stop Snacking

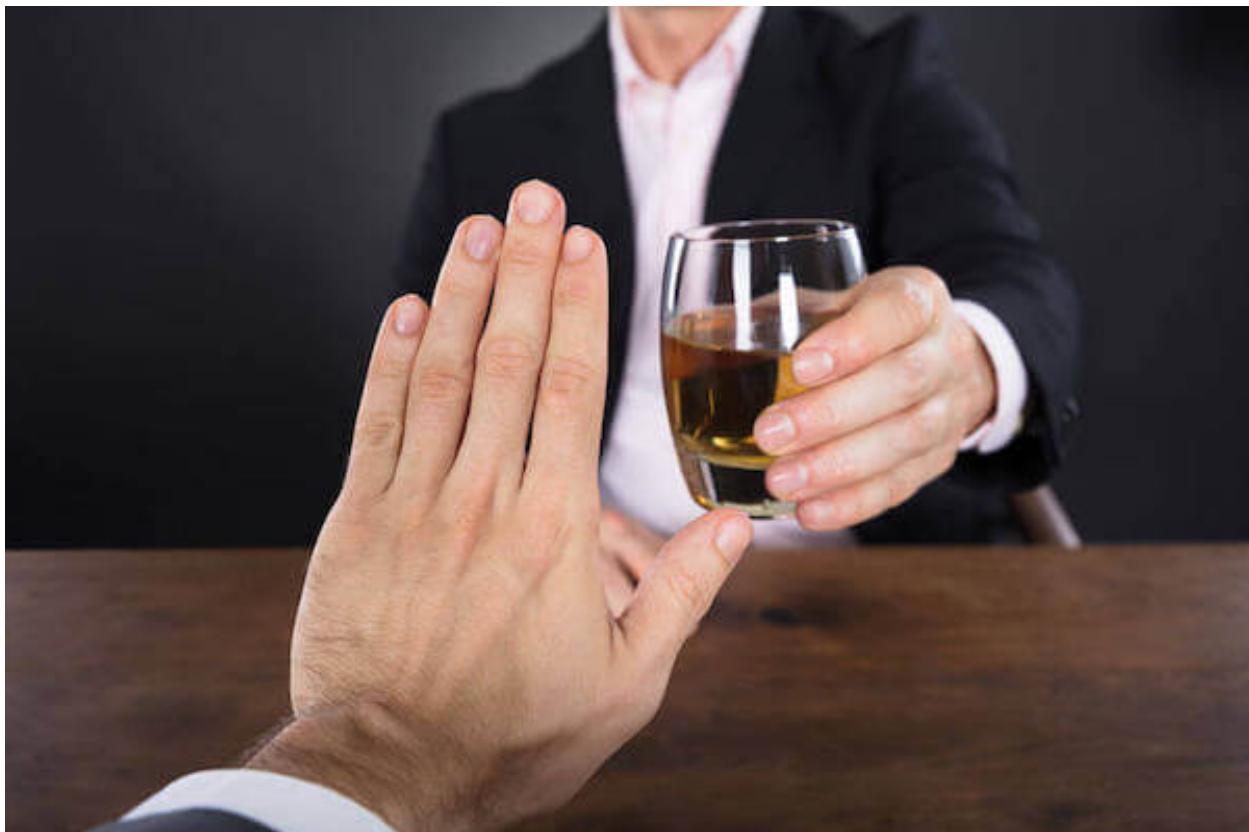


Shoving food into your mouth all day long is not helping your fat loss journey. Food companies have made millions of dollars by creating a non-existent need - [that snacking all day is good for you.](#)

High-carbohydrates foods are one of the leading causes of insulin resistance, and in most cases, snacks tend to be these types of foods. Even the relatively healthier options are unnecessary.

The human body works perfectly well with 2 to 3 meals a day and sufficient time in between meals. By snacking, we prevent our bodies from using stored fat. High performing athletes may need to constantly consume food because they work out 8 to 10 hours a day. Everyday folks, on the other hand, who are working mostly sedentary 9-5 jobs don't really need to constantly eat snacks.

## 7. Give Up Alcohol



Alcohol contains sugar in many forms, affects sleep, sex drive, judgement, digestion and needs to be processed before any other macronutrient (carbs, fats, proteins), thereby slowing the fat burning process. Do I really need to elaborate further on why you need to stop drinking alcohol altogether or maybe slow down or quit for at least a couple of months? Well, quitting alcohol for a few months will have other health benefits as well, such as improved skin. I can attest to this.

## 8. Working Out in a Fasted State



When you work out in a fasted state, your body is forced to use stored fat for energy (when it runs out of glucose). This process happens naturally but it usually takes about 2 weeks for a person to become fat adapted, i.e., for muscles to become efficient at using fat instead of glucose for energy.

Don't push yourself too hard if you've never been in ketosis (fat for energy). The growth hormone is secreted during this process, aiding faster recovery, tissue repair, and muscle development. Studies have shown that fasting does not cause muscle loss and in fact leads to numerous benefits such as a reduction in cholesterol and triglycerides as well as a lower waist circumference.

## 9. Fast



Humans have evolved such that our bodies store fat for energy to be used when food is scarce. During a famine, for example,, our bodies would burn the stored fat to keep functioning. This ability to store fat for energy has ensured the survival of our species for millions of years.

With modern-day life and an endless supply of junk food, we never have the need the fast. However, before we dive deeper into this subject, it is important to understand what fasting is and what calorie restriction is (which are usually seen in the same light).

Fasting is the absence of all foods for a short period of time. During a fast, the body burns available glycogen stored in the liver and then taps into fat reserves (ketosis) to keep the lights on.

Chronic calorie restriction (think  $\frac{1}{3}$  or  $\frac{1}{2}$  of your daily maintenance calories) prevents the body from achieving ketosis, i.e., only burning fat for energy. To compensate for

# ESTIMATE BODY FAT.COM

low calories, the body's basal metabolic rate (BMR) drops. The body goes into starvation mode. Weight (lean muscle/some fat loss) is lost; however, this weight loss is accompanied with a ravenous hunger and is therefore usually short lived.

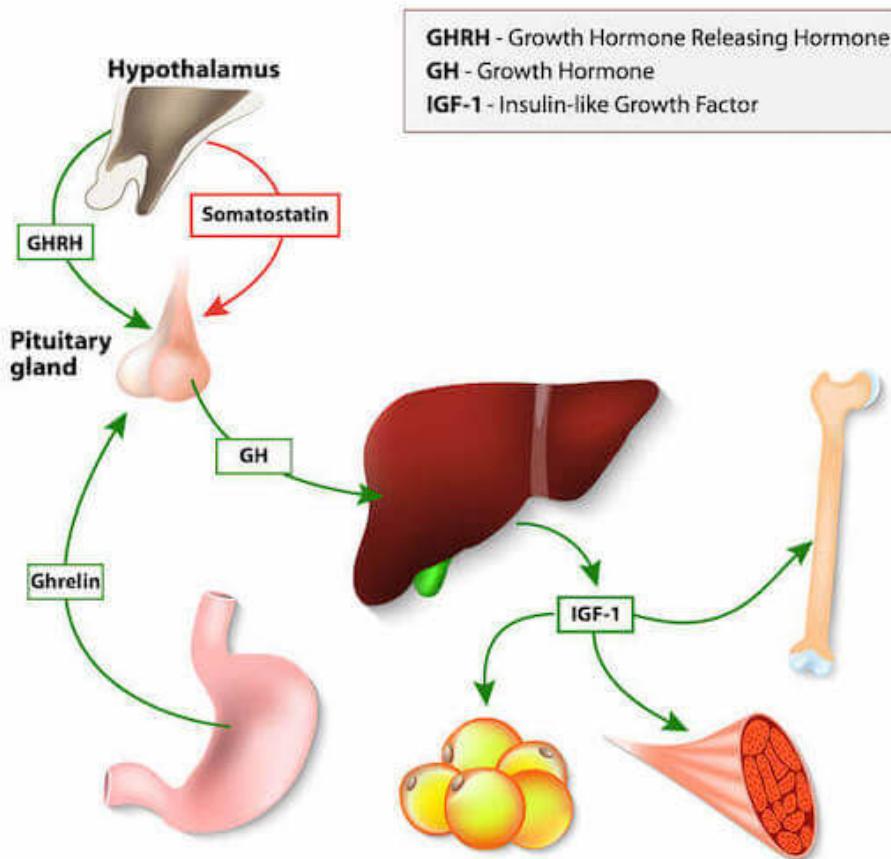
Nothing demonstrates [how dangerous severe calorie restriction is than the show 'The Biggest Loser'](#). Contestants on the show severely restrict their daily calories. They also work out very intensely.

This formula produces extreme weight loss (fat plus muscle). However, upon completion of the show, when contestants go back to their regular lives, keeping the weight off seems almost impossible.

What the contestants don't know is that their metabolism and BMR have been lowered as a result of the extreme calorie restriction. Much lower than it should be for their height and weight. Imagine a 200 pound/95 kg individual who used to require 2600 calories/day to survive but now only needs 1700 calories/day. This usually leads to rapid gain of the original weight that was lost plus a whole lot more. No wonder there is no reunion for 'The Biggest Loser'.

# ESTIMATE BODY FAT.COM

## GROWTH HORMONE



Fasting not only causes BMR to increase but also stimulates autophagy (i.e., eat oneself) and secretion of growth hormone. During a fast, the body targets the worn out cells for destruction and rejuvenation. Growth hormone helps in this rebuilding process.

Fasting help you tap into your fat reserves and also helps reverse the aging process. This is the reason why you look better AFTER a short fast. Fasting should be done in moderation because extended autophagy can make you sick.

A question about hunger is commonly brought up when we're talking about fasting. As you might recall, ghrelin (hunger hormone) controls hunger which comes in waves, thus implying the longer you are on a fast, the less hungry you'll end up being. Studies that have measured ghrelin levels in subjects that are fasting have found that

# ESTIMATE BODY FAT.COM

they stabilize and even decrease during fasting. However, you shouldn't abuse this because cortisol (stress hormone) has been shown to increase during fasts. It's important to time your fasts when you expect the least external stressors in your life.

For a complete guide to fasting safely, Dr. Jason Fung has written a [detailed book that can be obtained here.](#)

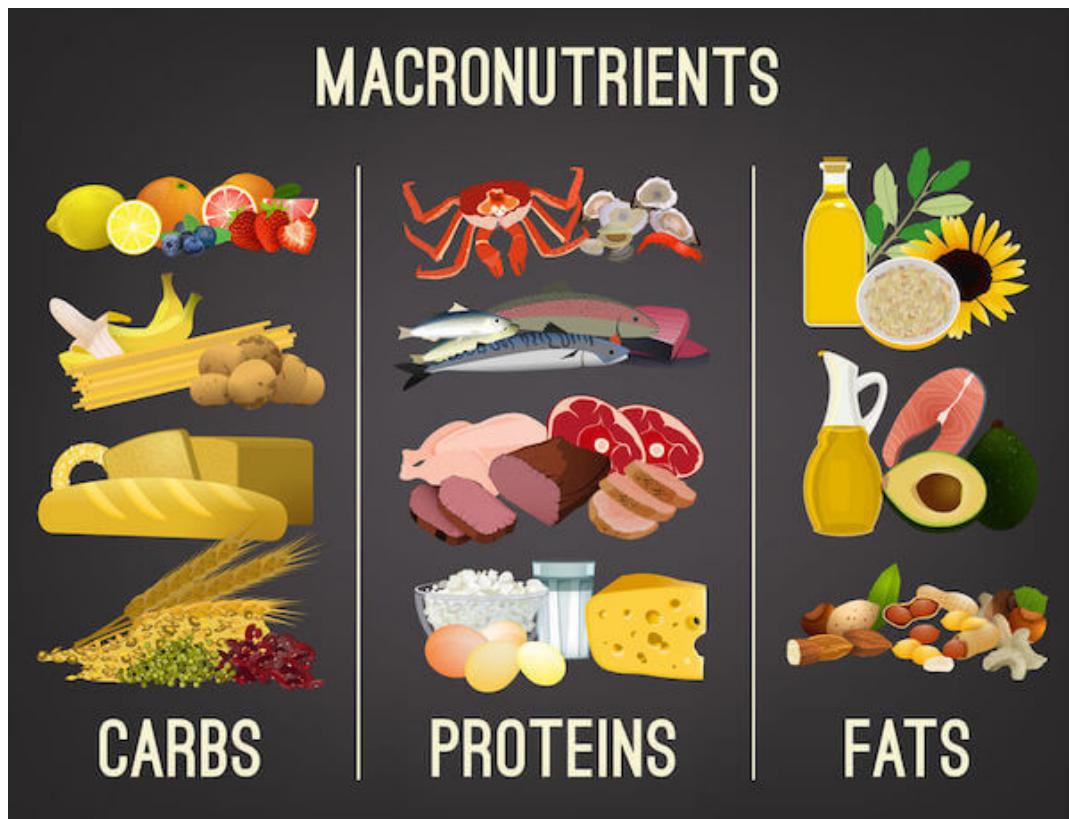
## 10. Consume Bone Broth

Bone broth is [nutrient dense, high in calcium and magnesium](#) and can easily be absorbed into the body. It's not surprising that almost every culture in the world has some variation of it.

Bone broth helps [strengthen the heart and aid in muscle growth](#) and it contains electrolytes that can easily be absorbed through the gut. It can be consumed during a fast as it has no carbohydrates and does not interfere in the ketosis process. Though it takes time and patience to simmer and stew a good broth, anyone can make one. The nutrients and minerals require an extended time to be extracted from the bones. These nutrients come from the [cartilage, collagen, glycine and gelatin in the bones](#). These four nutrients can treat a leaky gut, reduce inflammation, treat joint pain, prevent bone loss, and protect against cell damage. For more information on [Collagen, Click HERE](#). For more information on [Glycine, Click Here](#).

# ESTIMATE BODY FAT.COM

## 11. Track Your Macros - TDEE Calculator



I've touched on [why a calorie is not a calorie](#) and why the type of calories you eat matter a great deal for long-term fat loss. This section touches on how you can use this knowledge to structure a healthy diet plan.

If you're overweight or obese, even moderate changes to your overall diet and lifestyle will be enough to drop the extra blubber. However, you'll soon realize that losing more fat after the initial drop takes a lot more work. This is where concepts such as Resting Metabolic Rate (RMR)/ Resting Energy Expenditure (REE), Basal Metabolic Rate (BMR) and Total Daily Energy Expenditure (TDEE) come into play.

# ESTIMATE BODY FAT.COM

## A. Resting Metabolic Rate (RMR)/ Resting Energy Expenditure (REE)

RMR is synonymous with REE. It is an estimation of the calories burnt if you did nothing but rest. It represents the minimum energy required to maintain bodily functions. RMR takes into account the calories expended while performing light activities such as eating and household chores. We use the [Mifflin St. Jeor equation](#) for determining RMR.

RMR is calculated using your fat free mass (i.e., your overall weight minus the total amount of fat in your body). So, for example, if you weigh 100 kg with 30% body fat, your fat free mass will be  $[100 - 30*(100)] = 70$  kg. The formula to be used is:

$$\text{RMR} = 19.7 \times \text{Fat Free Mass (kg)} + 413$$

$$1 \text{ Kg} = 2.20462 \text{ lbs} \text{ or } 1 \text{ lb} = 0.453592 \text{ kg}$$

## B. Basal Metabolic Rate (BMR)

Similar to RMR, BMR is the energy (calories) required to sustain bodily functions while at complete rest. The difference between RMR and BMR is that unlike RMR, [BMR does not take into account energy spent performing light activities](#). The body must be at complete rest and in an awaken state. As a result, RMR tends to be higher than BMR. BMR is usually calculated in a controlled environment under medical supervision. Thus, BMR is a more accurate estimation of the number of calories burned during rest. However, for our purposes, we will once again use a variation of the Mifflin St. Jeor equation for determining BMR, but with the help of overall weight, height, age and sex.

$$\text{BMR} = [ 10 * \text{mass} + 6.25 * \text{height} - 5 * \text{age} ] + \text{sex}$$

Sex: Add +5 for males and -161 for females

Mass expressed in kgs

Height expressed in cm

Age expressed in years

# ESTIMATE BODY FAT.COM

## C. Total Daily Energy Expenditure (TDEE)



TDEE is an estimation of the energy (calories) burned per day when lifestyle (i.e., sitting down, working out, etc.) is taken into account. It gives you a deeper understanding of the calories burned per day compared to the BMR/RMR values. You can calculate your TDEE by taking your BMR or RMR and multiplying it with a set number depending on your lifestyle.

Calculate your TDEE using the equations below:

1. Sedentary (i.e., desk job with little to no exercise) =  $BMR/RMR * 1.2$
2. Lightly Active (i.e., 20 minutes light exercise/sports 1 to 3 days a week) =  $BMR/RMR * 1.375$
3. Moderately Active (i.e., 30 minutes moderate exercise/sports 3 to 5 days a week) =  $BMR/RMR * 1.55$
4. Very Active (i.e., 60 minutes hard exercise/sports 5 to 7 days a week) =  $BMR/RMR * 1.725$

# ESTIMATE BODY FAT.COM

5. Extremely Active (i.e., Athlete – hard daily exercise/sports and physical job or training) = BMR/RMR \* 1.9

Remember this number can vary dramatically depending on the individual. Use it as an estimation only.

## D. How do I use the TDEE to lose body fat?

To lose fat at a healthy rate, (i.e., fat mass instead of muscle mass) the number of calories you eat must be between your minimum calories (i.e., RMR/BMR) and your TDEE. As an example, if your BMR/RMR is 1514 cal/day and your TDEE is 2400 cal/day – if you consume 1920 cal/day, you will start losing fat. Think of it this way – your body needs 2400 cal/day; however, you only supply it 1920 cal/day – so the rest has to come from your fat cells.

When you are on a low-carb high-fat diet (keto), you might even be able to eat less and still function 100%. As you gradually get skinnier, your RMR/BMR and TDEE need to be adjusted to account for the new weight, muscle gain and any change in lifestyle.

# ESTIMATE BODY FAT.COM

## What is the average body fat loss per month?

Most experts agree that on [average a 1% to 3% loss of body fat per month](#) is achievable and healthy for most people. From my own personal experience, incorporating a [low-carb high-fat diet and healthy lifestyle](#) with daily exercise and periodic fasts can result in incredible fat loss and increased energy. I have never felt more energetic and I never felt the need to go back to my old ways of eating. Here are my results:

Starting Weight = 182 lbs - 33% bf Start Date - January 2nd

Weight after 3 months - 160 lbs - 20.9% bf End Date - April 30th

Average of 1.375 lbs/week

This is on the higher end of fat loss, and I was surprised with the results myself.

Here's how I think I achieved it:

1. Fasting 2-3 times a month.
2. Giving up alcohol for 3 months.
3. Sticking to high-fat low-carb meals
4. Eating twice a day only (afternoons and evenings - thus intermittent fasting on most days)
5. Drinking lots of water. Took a [water bottle with me](#) everywhere I went.
6. Having [Bragg's Organic Apple Cider Vinegar](#) and [Psyllium Husk](#) everyday for better digestion, additional fibre and improved bowel movements.
7. Daily Meditation.

Oh yeah, and I stopped working out completely for that time period. I did this specifically to test Dr. Jason Fung's theory that considerable fat loss can be achieved by [focusing simply on controlling your insulin spikes](#) (i.e. diet).

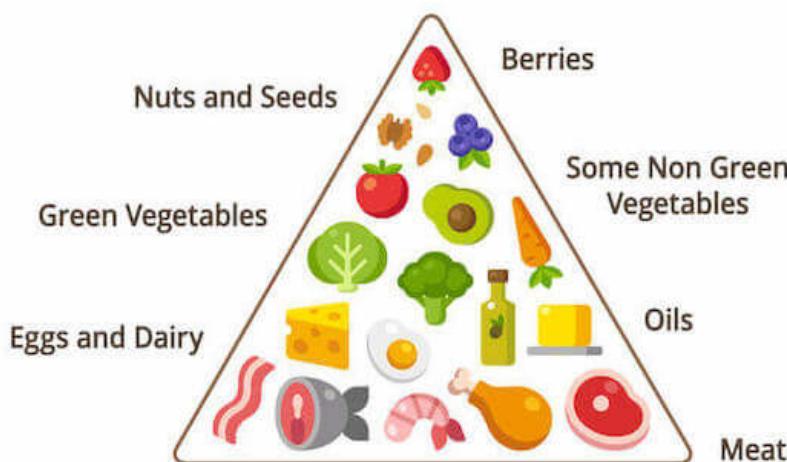
### Thoughts

I've personally tried every diet under the sun, probably like most of you reading this. All diets work in the short-term, but the only diet that did not make me feel sick and hungry ALL the time was Keto (low-carb highfat). With the other diets, I always felt

# ESTIMATE BODY FAT.COM

defeated when I failed to stay with the diet after the set date. I blamed this failure on my pathetic willpower.

## KETO Food Pyramid



### Exclude:



On keto, I've never felt this way. It was like taking the game from extremely difficult - OMG! I'm gonna die - to Oh wow! is this what a calorie deficit should feel like? I never felt hungry and I never felt the need to cheat as I always reached satiety. A body running on fat is more efficient than a body running on glucose because there are ample fat reserves in the body compared to glucose. Keto has become a lifestyle that I don't see myself giving up.

By following a low-carb high-fat diet to lower insulin, your body switches energy sources, and instead of using the calories from food, it starts to burn the fat reserves in your body. As a result, the BMR is not lowered and stays just as high as it was when you first start losing fat. This is only possible on keto as it is the only diet that

# ESTIMATE BODY FAT.COM

solves the problem of excessive insulin. If I chose to simply lower my calories, my BMR would lower as well. Instead, by fixing my insulin response to food, I can switch energy sources in my body.



Eliminating alcohol for 3 months improved my skin and gave me mental clarity that I hadn't experienced in quite a while. It wasn't like I was going out drinking every night before I quit, but it was surprising how many activities I participated in with friends as a young adult that revolved around consuming alcohol.

I highly recommend taking a complete break from alcohol once a year to reset. I think I started [Meditating and Fasting](#) around the same time and highly recommend it even if you are not serious about fat loss. If you are looking for ideas for your next project, need to study for an important exam, or are in a highly competitive career, incorporating meditation and fasting into your routine will do wonders for your creativity, clarity, and progress. If you think you are too busy to meditate, then you need meditation the most.

The three months of keto and mental focus have definitely changed my life for the better. I do have a few drinks and will have the occasional slice of pizza, but I don't see myself ever going back to the way I lived before this transformation.

## How do I resist the temptation of junk food?



Just like alcoholism and drug addiction have roots in the genetics and upbringing of an individual, the root cause of obesity lies in hormones. We tend to blame an individual for being overweight or obese, but we know that it's the hormones that call the shots.

Unless the [hormonal issue is solved](#) there can never be a breakthrough in overall fat reduction sustained over the long term. Fixing your insulin response to food helps switch your body's energy source from food to fat reserves, and when sustained over the long term, this can produce amazing results.

Simply restricting your calories without fixing your insulin response to food leads to a lower BMR and increased fat gain over the long haul. The calorie theory of [what goes in and what comes out just does not work to help address the hormonal cause of obesity](#).

When your body switches its energy source from food to fat reserves, which diets like keto help to do, your cravings for junk food gradually disappear. If you simply attempt to use willpower to stop, you are fighting a losing battle.

You will succumb to the temptation at some point in time when things are not going your way, just like a smoker tells themselves that they need to have a smoke during a period of stress. The reality is that the additional smoke only adds to the stress just like

# ESTIMATE BODY FAT.COM

the junk food adds to obesity, which adds to the feeling of being sick, leading to increased cravings for junk food. It is a vicious circle that must be attacked at its very roots.

You will only be able to solve your weight problems when you choose a lifestyle that fixes your hormones, just as you can only truly quit smoking when you realize that [cigarettes do not relieve stress or boredom, nor do they help you to concentrate or relax.](#)

# **ESTIMATE BODY FAT.COM**

## **Disclaimer**

The content on this site is for information purposes only. I (Bruce Rebello) am a licensed industrial engineer in the province of Ontario, Canada, with no medical training whatsoever. None of this content is meant to be taken as medical advice.

All I have done on this site is aggregate information that I think is beneficial. Speak to your healthcare professional for medical advice and read the book I mentioned in the resources section that is written by a healthcare professional. I or I Lov Guitars Inc. will not be held liable for any claim, damage or other liability arising from, out, or in connection with using this PDF and its content.